

REMARKS

In the Office Action dated March 28, 2005, claims 11-18, 20- 28 and 30 are pending and claims 11-18, 20-28 and 30 are rejected. Reconsideration is requested for at least the reasons discussed hereinbelow.

Applicants wish to thank Examiner Ross for the courteous interview conducted with Applicants' attorney on July 1, 2005. during the interview, the differences between the present invention and the cited art were discussed. the substance of the discussion is included in the remarks below.

The above amendment cancels product claims, which are directed to a shank-end tool in order to facilitate an expeditious examination. The remianing claims are directed to a method for the milling-type machining of chipless materials for the manufacture of heat-resistant **sand molds**. The examiner's attention is drawn to the International Preliminary Examination Report where it is stated that there is no publication to a milling tool, which contains treatment of workpieces from sand in particular sand molds. In other words, none of the search report citations discloses **the use** of a milling cutter for processing workpieces of sand, particulary sand molds. Similarly, none of the art of record herein discloses **the use** of a milling cutter for processing workpieces of sand, particulary sand molds.

Claims 11-15, 18, 21-25 and 28 are rejected under 35 U.S.C. §103(a) over

Williams (US 2,621,548). Williams discloses a “mounting for cutting tools”. The present invention from Williams relates to cutting tools, particularly cutting tools of the rotating type, such as drills, countersinks, counterbores, and the like, which are commonly employed for the performance of various cutting operations (col. 1, lines 1-5). The cutting tool from William has a cutting edge in the tool feed direction. Such a tool is not useful for milling sand molds. The tool of Williams, as viewed in Fig. 6, is used to perform a drilling operation (col. 3, lines 16-23). Thus, Williams discloses a cutter tool in Fig. 6 with longitudinal feed in axial direction” (col. 3, lines 16-23).

Further, Williams does not provide even a hint of a suggestion that such tools would be useful in the milling of sand molds. Indeed, Williams also does not suggest that removing the cutting edge would provide a tool that is effective for milling sand molds.

The present inventors have discovered that the shank-end milling tool described in the present application is particularly useful for milling sand molds. The present invention provides a flat leading face in a direction of advance during use and the flat bar tool is provided without cutting edges on the leading face (i.e., in a direction of tool advance during use). Thus, in use, typically, the tool is fed into the sand material in a direction perpendicular to the shaft. The shank-end milling tool of the present invention does not have a cutting edge in the feed direction. Nothing in Williams suggests the presently claimed method for milling of sand molds.

Claims 16 and 26 are rejected under 35 U.S.C. §103(a) over Williams in view of Schweikert et al. (US 5,222,842). Schweikert discloses a milling tool, but having cutting edges in the direction of feed. There is no suggestion in Schweikert that the described tool with cutting edges is useful for milling sand molds. Certainly, there is no suggestion that the shank-end milling tool described in the present application would be useful for milling sand molds.

Thus, it is not seen how the presently claimed method for the milling-type machining of chipless materials for the manufacture of heat-resistant **sand molds** would have been obvious to one of ordinary skill in the art in view of Williams or Schweikert, or any combination of them.

Claims 17 and 27 are rejected under 35 U.S.C. §103(a) over Williams in view of Ogawa (US 5,597,269). Williams is discussed in detail above. Ogawa does not make up for the deficiencies of Williams. Ogawa also ***fails*** to teach or suggest the presently claimed method for the milling-type machining of chipless materials for the manufacture of heat-resistant **sand molds**.

Thus, it is not seen how the presently claimed method for the milling-type machining of chipless materials for the manufacture of heat-resistant **sand molds** would have been obvious to one of ordinary skill in the art in view of any combination of the cite art.

Claims 17 and 27 are rejected under 35 U.S.C. §103(a) over Williams in view of Freitag. Williams is discussed in detail above. Freitag does not make up for the deficiencies of Williams. Freitag also ***fails*** to teach or suggest the presently claimed method for the milling-type machining of chipless materials for the manufacture of heat-resistant **sand molds**.

Thus, it is not seen how the presently claimed method for the milling-type machining of chipless materials for the manufacture of heat-resistant **sand molds** would have been obvious to one of ordinary skill in the art in view of any combination of the cite art.

Prior to the present invention, tools with cutting edges were used to machine sand molds. To provide wear resistance such prior art tools with cutting edges were provided with a diamond coating or similar hard material on the cutting edge. The present invention provides a simple method for machining the sand molds that avoids the high cost tools having cutting edges coated with diamond. The tool is implemented as a flat sheet having any suitable thickness. Because it has no cutting edges, it can easily stamped from metal sheet of roll stock. Thus, the tool blade is a flat sheet without a cutting edge. The edge of the tool blade is substantially a right angle, which is not a cutting edge. Thus, the present invention of Hauschild provides a simple and economical method for milling sand molds.

In view of the amendment and discussion above, it is respectfully submitted that the present application is in condition for allowance. An early reconsideration and notice of allowance are earnestly solicited.

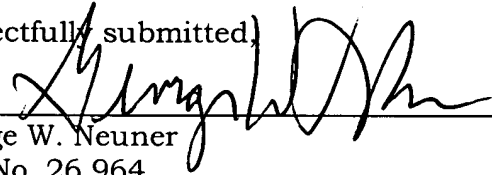
Hauschild, et al.
USSN 10/019,749
Page 9 of 9

If for any reason a fee is required, a fee paid is inadequate or credit is owed for any excess fee paid, the Commissioner is hereby authorized and requested to charge Deposit Account No. **04-1105**.

Date: July 27, 2005

Edwards & Angell, LLP
P.O. Box 55874
Boston, MA 02205
(617) 439- 4444
Customer No. 21874

Respectfully submitted,

By: 
George W. Neuner
Reg. No. 26,964